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KING & SPALDING LLP
191 PEACHTREE STREET, N.E.
ATLANTA, GA 30303-1763

| EXAMINER | |
|---|---|
| GREEN, ANTHONY J | |
| **ART UNIT** | **PAPER NUMBER** |
| 1755 | |

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/663,504 | PASEK ET AL. | |
| | Examiner | Art Unit | |
| | Anthony J. Green | 1755 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-33 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-33 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 15 September 2003 is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 9/15/03&12/13/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Objections*

1. Claims 1-4, 24, and 28 are objected to because of the following informalities:

It is suggested that the term "GUP" needs to be preceded by the actual name of the compound so that it is clear as to what the term means. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-23 and 30-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-4 the term "Improved" is not understood as it is unclear as to what is improved. That is, applicant recites "An improved GUP/boric acid formulation" however no improvement is recited. Clarification is requested.

The preambles of claims 5-16, 22-23 and 31-33 are inconsistent with the claims from which they depend as claims 1-4 are not directed to "A composition" but rather "A formulation". Applicant needs to use consistent terminology.

In claims 5 and 6 the phrases "the amount of unreacted starting materials", "the GUP reaction process" and "the theoretical GUP yield" lack proper antecedent basis.

In claim 7 it is unclear as to what is meant by the phrase "does not exhibit an equivalence point".

In claims 7 and 9-10 the second occurrence of "composition" appears to lack proper antecedent basis.

In claim 22 it is unclear as to what is meant by the phrase "does not exhibit an equivalence point".

Claim 23 is confusing as it is unclear as to how it can be in the form of a liquid when it depends from claim 4 which is specifically drawn to a solid. Clarification is requested.

In claim 30 the phrase "the fire retardant composition" lacks proper antecedent basis.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-2, 7-8, 22 and 30-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Oberley et al (US Patent No. 4,373,010).

The reference teaches, in the abstract and the claims, the formation of GUP/boric acid formulations having between about 5 and about 20 percent unreacted

dicyandiamide and phosphoric acid. The compositions are used to render wood flame retardant.

The instant claims are taught by the reference. With respect to claim 1 the reference states that the composition contains about 5 and about 20 percent unreacted dicyandiamide and phosphoric acid which would appear to encompass applicant's limitation that the composition has greater than 95 percent purity as "about 5 percent" unreacted materials is seen to encompass "about 95 percent purity" which would encompass the limitation of "greater than 95 percent purity" as "about" permits some tolerance. See also column 3, lines 10+. With respect to claims 2 and 8 since the reference does not recite the formation of a salt of dicyandiamide and phosphoric acid this claim is believed to be met by the reference. As for claims 7 and 22 it is the position of the examiner that these properties are inherently possessed in the composition of the reference absent evidence to the contrary since the composition is the same. Claims 30-31 are met by the reference as the examples teach the treatment of wood.

6. Claims 17-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Staendeke et al (US Patent No. 4,467,056).

The reference teaches, in the abstract, the examples and the claims, free flowing pulverulent ammonium polyphosphates for impeding the combustibility of combustible materials. The particles have a mean particle size of from 0.01 to 0.05 mm.

The instant claims are met by the reference. Since the particles are ammonium polyphosphates which impede combustibility of materials claims 17 and 21 are met. It is the position of the examiner that the particles would be spherical absent evidence to the contrary as the reference teaches that the particles are free-flowing thus meeting claim 18. As for claim 19 since the particles have a mean size of from 0.01 to 0.05 mm they would possess a substantially narrow particle size distribution. As for claim 20 since the mean particle size is 0.01 to 0.05 mm this would be after conversion a range of from 10 to 50 microns.

7. Claims 17-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukumura et al (US Patent No. 5,213,783).

The reference teaches, in the abstract, examples and the claims, a composition comprising finely divided particles of ammonium polyphosphate useful as a fire retardant composition.

The instant claims are met by the reference. Since the particles are ammonium polyphosphates useful as a fire retardant claims 17 and 21 are met. It is the position of the examiner that the particles would be spherical absent evidence to the contrary as the reference teaches in example 1 the formation of a granular powder thus meeting claim 18. As for claims 19-20 since the particles have an average particle diameter of from 4 to 10 microns they would possess a substantially narrow particle size distribution.

8. Claims 17-18 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Shutt (US Patent No. 4,168,175).

The reference teaches, in the abstract, the examples and the claims, fire retardant compositions comprising free-flowing and non-caking mixtures of ammonium phosphate, sodium tetraborate and finely ground particles of soda containing silicate glass.

The instant claims are met by the reference. Since the particles are ammonium polyphosphate and sodium tetraborate useful as fire retardant compositions 17 and 21 are met. It is the position of the examiner that the particles would be spherical absent evidence to the contrary as the reference teaches that the particles are free-flowing thus meeting claim 18.

9. Claims 17 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hicks (US Patent No. 4,504,603).

The reference teaches, in the abstract, the examples and the claims, a fire retardant polyurethane foam containing finely ground fire retardant particles containing a volatile active fire retardant component. The particles comprise a mixture of ammonium phosphate, ammonium chloride, sodium chloride and borax.

The instant claims are met by the reference as the reference teaches a finely ground fire retardant composition which meets the instant claims.

10. Claims 17-18 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by German Patent Specification No. 3438096A1.

The reference teaches, in the abstract, free flowing fire retardant powders based on ammonium polyphosphates.

The instant claims are met by the reference. Since the powders are free flowing fire retardant powders based on ammonium polyphosphates claims 17 and 21 are met. It is the position of the examiner that the particles would be spherical absent evidence to the contrary as the reference teaches that the particles are free-flowing thus meeting claim 18.

11. Claims 17-18 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Blasius (US Patent No. 5,922,296).

The reference teaches, in the abstract, examples and the claims, a sodium polyborate (tetraborate) composition in the form of a dry, free-flowing, finely divided product wherein the composition is useful as a fire-retardant agent.

The instant claims are met by the reference. Since the particles are sodium polyborate useful as a fire retardant claims 17 and 21 are met. It is the position of the examiner that the particles would be spherical absent evidence to the contrary as the reference teaches in the claims the formation of a free-flowing powder thus meeting claim 18. As for claims 19-20 since the particles have an average particle diameter of from 4 to 10 microns they would possess a substantially narrow particle size distribution.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oberley et al (US Patent No. 4,373,010).

The reference was discussed previously in Item #5 above.

The instant claims are obvious over the reference. While the reference does not specifically teach the form of the composition in composite wood products (claim 32) or in the form of a wood furnish (claim 33), the reference teaches in column 3, lines 14+, that other cellulosic material can be rendered flame resistant with the compositions of the reference such as paper, cardboard, cotton, etc. Accordingly one of ordinary skill in the art would have found it obvious to utilize composition to produce any kind of treated wood product such as a composite wood product or a wood furnish absent evidence to the contrary since the use of the composition in other cellulosic materials is clearly suggested. Based on the above reasoning, the instant claims are rendered obvious by the reference.

14. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blasius (US Patent No. 5,922,296).

The reference was discussed above in Item #11.

The instant claims are obvious over the reference. While the reference does not specifically recite that the product has a substantially narrow size distribution (claim 19) or that the average diameter size is less than 50 microns the reference teaches in column 7, lines 1+ and in claim 11, that if a sodium polyborate product finer than -3 mesh is desired, further screening or pulverization can be employed and oversize particles can be recycled and crushed or pulverized. Accordingly based on this teaching one would find it obvious to further screen or pulverize a sodium tetraborate composition if a smaller particle size such as an average diameter of less than 50 microns (instant claim 20) is needed or desired. As for the substantially narrow size distribution limitation (instant claim 19) based on the above teaching in the reference one would find it obvious to further screen or pulverize a sodium tetraborate to produce a powder having a substantially narrow size distribution limitation if one were needed or desired without producing any unexpected results. Based on the above reasoning the instant claims are rendered obvious by the reference.

***Double Patenting***

15. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re*

*Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

16. Claims 3-4 and 16 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 18-20 of prior U.S. Patent No. 6,652,633. This is a double patenting rejection.

The instant claims appear to have the same scope as the claims of the prior patent as the preamble limitation of "improved" found in instant claims 3 and 4 does not appear to add any patentable weight to the claim since no improvement is taught (see the 112 rejection above for complete details).

17. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

18. Claims 1-2, 5-22 and 24-33 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-32 of U.S.

Patent No. 6,652,633. Although the conflicting claims are not identical, they are not patentably distinct from each other because the reduction to practice of the claims of the prior patent would render obvious the instant claims.

Instant claims 1-2, 5-23 and 28-33 are of a broader scope than those of the prior patent and accordingly they are seen to encompass the claims of the prior patent. Note for instance that the limitation of "greater than 95 percent purity" found in instant claim 1 encompasses the limitation of "greater than 97 percent purity" found in claim 1 of the prior patent. Instant claims 24-27 appear to be of narrower scope than the claims of the prior patent and accordingly are encompassed by the claims of the prior patent. Note that claim 25 of the prior patent recites "substantially linear reaction kinetics" whereas instant claim 24 recites "linear reaction kinetics" which is of a narrower scope than the limitation found in the prior patent.

### *Allowable Subject Matter*

19. Claim 23 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### *Information Disclosure Statement*

20. The references cited by applicant which were not utilized in the above rejections are not seen to teach and/or fairly suggest the instant invention. With respect to CN1213603 and JP02-277603, based on the submitted abstracts, they do not seem to

teach and/or fairly suggest the instant invention however the examiner has ordered translations of these documents to ensure that they do not teach or fairly suggest the instant invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Green whose telephone number is 571-272-1367. The examiner can normally be reached on Monday-Thursday 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on 571-272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony J. Green
Primary Examiner
Art Unit 1755

ajg
February 02, 2005